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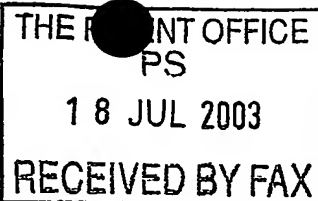
W. Evans

Dated

12 September 2003

Patents Form 1/77

Patents Act 1977
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1/77

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road
Newport
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NP10 8QQ

1. Your reference

P017734GB

18JUL03 E823715-1 D02246

2. Patent application number
(The Patent Office will fill in this part)

0316879.6

P017734 0.00 0316879.6
18 JUL 2003

3. Full name, address and postcode of the or of each applicant (underline all surnames)

INTELLPROP LIMITED
PO BOX 626
NATIONAL WESTMINSTER HOUSE
LE TRUCHOT ST PETER PORT
GUERNSEY

Patents ADP number (if you know it)

6894604001

If the applicant is a corporate body, give the country/state of its incorporation

A GUERNSEY COMPANY

4. Title of the invention

TELECOMMUNICATIONS SERVICES APPARATUS

5. Name of your agent (if you have one)

D Young & Co

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

21 New Fetter Lane
London
EC4A 1DA

Patents ADP number (if you know it)

59006

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if

Yes

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))

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Continuation sheets of this form NONE

Description 5

Claim(s) 0

Abstract 0

Drawing(s) 1 *only*

10. If you are also filing any of the following, state how many against each item.

Priority documents 0

Translations of priority documents 0

Statement of inventorship and right to grant of a patent (Patents Form 7/77) 21

Request for preliminary examination and search (Patents Form 9/77) 0

Request for substantive examination (Patents Form 10/77) 0

Any other documents (please specify) Facsimile Letter Dated 18 July 2003

11.

I/We request the grant of a patent on the basis of this application.

Signature *D Young & Co*

Date 18 July 2003

D Young & Co (Agents for the Applicants)

12. Name and daytime telephone number of person to contact in the United Kingdom

Frances Goddard

023 8071 9500

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0074888-18-10

TELECOMMUNICATIONS SERVICES APPARATUS

This invention concerns the field of mobile telecommunications and in particular services involving text and voice including for example the Global System for Mobile Communications (GSM) and its associated short message services (SMS) and voice
5 communication capabilities.

Text and voice communication are independently established as the primary means of telecommunication between individuals, and between users and organisations or applications. Each of the mobile telephony standards supports a variant of text
10 messaging, which in the case of GSM is supported by the Short Message Services (SMS). Each mobile standard also supports voice calling.

Text message interaction with Host applications, for example for voting, purchases, or entertainment is increasingly common, and voice interaction with Host applications is
15 beginning to grow in the same way as it has previously on fixed networks in response to the development of premium rate services.

Many network operators support interactive games on mobile phones using network-based applications, and these are normally text message or WAP based. There are
20 many other applications, for example customer services, where voice communication, and in some cases text communication, is used.

The prior art treats voice and text separately. Although some complex services have been implemented in both technologies, the interaction possibilities between text and
25 voice have not been well explored. Particularly in the context of mobile phone games, the possibility of a closer link between voice and text interaction has not been exploited.

Where voice input and text output are used in conjunction in the prior art, the
30 relationship between the text and voice is prescriptive and functional only, and the system has no memory for applying knowledge in subsequent communications. For

example, a telephone call to a directory service may result in a telephone number being sent by text message to the callers phone. But next time he calls, there will be no influence from a previous call, as there is no history or memory maintained by this application.

5

According to the invention there is provided a Telecommunications Services Apparatus operable to communicate by both voice and text with users. Text communications to the apparatus are parsed by a sub-platform which may be known as a Wizard, whilst voice communication is processed by a sub-platform known as a

10 Voice Services Equipment capable of interacting by playing audio files or synthesising audio, accepting DTMF tones, accepting caller audio for recording and the like. The application accepts input from both text and audio, and may generate output using either route, while maintaining a memory and history of previous inputs and outputs. The application may use its memory and history of previous interactions with this user

15 or other users to influence, personalise or otherwise modify its subsequent interactions, output or flow.

Referring to Figure 1, a mobile user (10) is connected to a mobile telephone network via an MSC (12). The network preferably contains one or more SMS Routers (14) for

20 routing and filtering text messages sent by users. Alternatively, text messages may be routed via an SMSC (15). Text messages destined for an application using the invention are routed via a Wizard platform (16), which may be implemented as a separate server or as part of another network component. The wizard processes these text messages and communicates with the application (18). Voice interaction with the

25 application is via a Voice Services Equipment (17) or equivalent function in the network. The application is also able to initiate outgoing calls or text messages.

The present invention allows a user to interact by either voice or text (or both) with an external system or application, such that the flow, content or outcome of an interaction

30 may be affected by application memory that stores information relating to the content of a previous interaction using text or voice. For example in a mobile phone game application, the audio heard during a voice prompt could depend on the text sent by the

user in a previous text message, opening the possibility of a rich and complex game environment with a higher degree of realism than has been possible before.

For example, a use might text a message such as 'My name is Lucy', or 'I prefer red'.

- 5 In a subsequent voice call or text message the system output dialogue might be modified to include the phrase "Hello Lucy..." or "I chose a red one for you". The intention here is to introduce a richness of detail at the lowest level, providing a more engaging and rewarding intercommunication experience.
- 10 Conversely, voice communications from a user may be interpreted at least in part by use of an Automatic speech recogniser (ASR) or by a live Agent or a combination of the two. Keywords or phrases from this dialog may be used to influence future outgoing texts or dialogs with the user.
- 15 Incoming text messages are processed as follows. Messages are directed to the Wizard server platform, preferably by being groomed from other traffic using an SMS Router. The grooming criterion could be destination number for example. Groomed traffic is passed to the Wizard preferably over TCP/IP. The Wizard parses the message in an application dependent fashion, and communicates relevant information to the
- 20 application, which may be on a separate platform reached over TCP/IP, or may be running on the same platform as the Wizard. The application stores the information, and may use it in a later communication with the user. For example, it may cause the Wizard to generate a text message and drop in a reference to information previously provided by the user, in which case the message is sent over TCP/IP to the SMS
- 25 Router. The Router delivers a Mobile Terminated text message, preferably directly rather than via the SMSC for speed. Alternatively the application may cause the VSE (17) to initiate a voice call to the user, preferably with the content created from concatenated recordings, or alternatively synthesised. Again the application has the option of referencing information previously provided by this user, or by another user.

30

Voice calls from the user to the application are routed using the dialled number to the VSE platform. Under application control, audio prompts may be played, and choices

or recorded audio collected. Significantly, the audio interaction may depend not only on previous voice interactions, but also on previous text interactions. This means that the entire flow of the interaction may be modified by the historical information collected by the platform during previous interactions. This knowledge stored in the application can lend an unexpected human-like quality or realism to automated processes, and provide an invaluable extra dimension to mobile games.

As a specific example, the platform may have stored amongst its library of audio prompts, 10,000 or 20,000 carefully recorded and cut recordings of people's first names. Having prompted the user to supply their name in one interaction, during a subsequent voice call or text exchange, which may be initiated by either the user or the platform, the application has the option to greet the user by name, or to drop their name into the communication, either as text or by concatenating the corresponding audio recording of the name with other application audio. As an alternative to high quality concatenation, text to speech (TTS) techniques or voice synthesis could be used.

Preferably one number, or alternatively separate numbers, could be used for the voice and text parts of communications initiated by the user. This is an important feature, since the user has only to dial or text to a single number whatever the medium of the communication. Also the CLI of interactions initiated by the application, whether a short code or a long number, will always be the same and hence is more recognisable by the subscriber. A single number system could use a virtual mobile number with voice call redirection to implement routing of voice and texts to an application platform.

The invention provides the capability for detailed personalisation of content shared between voice and text aspects of a communication, or set of communications. It works in both directions, i.e. voice input influencing both text and voice output, and text input influencing both voice and text output.

It is also possible that interactions with a user may be influenced by interactions with other users, and this is particularly true of multi-user games.

5 In so far as the embodiment(s) of the invention described above may be implemented, at least in part, using software controlled processing apparatus, it will be appreciated that a computer program providing such software control and a storage medium by which such a computer program is stored are envisaged as aspects of the invention.

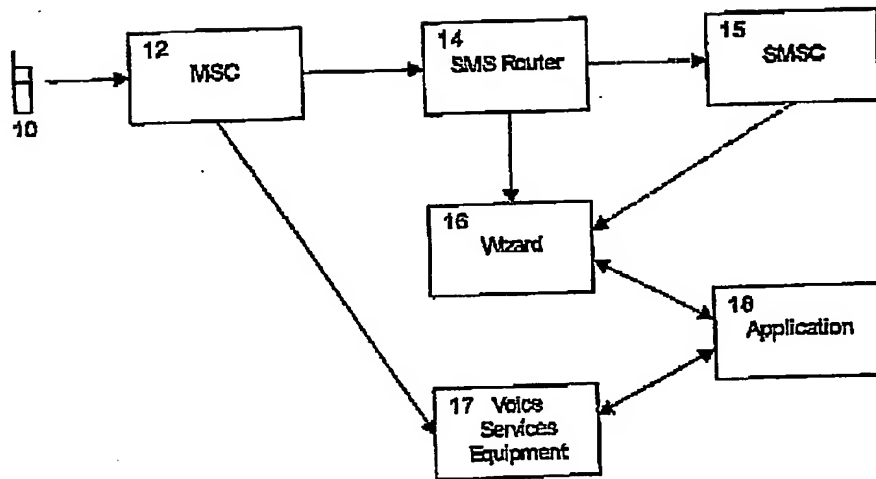


Figure 1

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